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This Document Contains 6

INTER-OFFICE MEMORANDUM

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DATE July 14, 1944

TO: Members of Initiator Committee

FROM: K. T. Bainbridge

SAA200067180000

SUBJECT: Minutes of Meeting of July 6, held in Room B-212.

Present: Members of Committee and R. Oppenheimer, A. Ayers, G. Farwell.

JAN 29 1981

A-83-013
3-26

I.

The committee should soon arrive at a final design for the initiator and all of the following factors are important.

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1ST REVIEW DATE: 3/2/96	1. DETERMINATION (CIRCLE NUMBER):
AUTHORITY: DAD, DADD	2. CLASSIFICATION RETAINED TO:
NAME: R. B. Denny	3. CLASSIFICATION CHANGED TO:
2ND REVIEW DATE: 3/26/96	4. COORDINATE WITH:
AUTHORITY: R. B. Denny	5. CLASSIFICATION CANCELLED
NAME: R. B. Denny	6. CLASSIFIED INFO BRACKETED
	7. OTHER (SPECIFY):

II. Mr. Dodson presented his results on neutron background measurement. This is attached as Appendix A.

Improvements in the purification on Monsanto Po can be anticipated. The material shipped has not yet made the 50% by weight of Po requirement. The delivery schedule as of April 12 - 14, 1944 is being held to. This report is included in Appendix B.

III. Absolute Measurements.

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RESTRICTED DATA
This document contains restricted data as defined in the Atomic Energy Act of 1954. Authorized disclosure subject to Administrative and Criminal Sanctions.

Classification changed to: Segre discussed the procedure followed in making the absolute measurements

1st reviewer signature/title/org./date/initials
B. T. Denny 17M F55-16 3/1/75 ADD
2nd reviewer signature/title/org./date/initials

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Po Delivery Schedule

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As of April 12-14, 1944.

<u>Month</u>	<u>Scheduled Minimum</u>	<u>Amount Sent, Monsanto Assay</u>	<u>Amount Rec'd. Our Assay</u>
March		0.94 c	0.62 c.
April	2.5 curies	2.39 c.	2.05 c.
May	2.5 curies	2.6 c.	2.36 c.
June	2.5 curies	3.1 c.	2.76 c.
July	6 curies		
August	6 curies		
September	10 curies		

10 c./month as soon as W operates.

20 c. held in reserve in B1 for spot delivery on request.

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APPENDIX C

NEUTRON YIELDS OF INITIATOR ASSEMBLIES FIRED TO 7/4/44

by G. Farwell

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Eleven active gun assemblies designed by Ayers have been fired by the E-4 20 mm testing crew with the assistance of E. Nooker, the neutron emission of each assembly has been measured, after hand assembly where possible and after gun assembly in every case.

Determination of absolute neutron yields is based upon comparison of the active assemblies with a Po-Be standard calibrated by Graves. Results are estimated to be accurate to $\pm 5\%$. The comparisons are made with a BF_3 detector. An 8% correction is made for absorption by the walls of the target-assemblies.

Differences in target design have no measurable effect on the magnitude of the correction.

Efficiencies are estimated from the measured neutron yields and the activities of the Po foils as measured by Dodson. 100% efficiency is defined as the emission of 2500 neutrons per second per millicurie of Po (cf Roberts, CF 864) and assumed 4 π contact of Po and Be.

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW
DATE: 3/2/96
AUTHORITY: 38 CFR 1.56 (a)
NAME: [Redacted]
TITLE: [Redacted]
CLASSIFICATION: [Redacted]
OTHER(S): [Redacted]

Target Description	Gun Ass'y Yield Hand ass'y yield	Total neutrons per second (Gun ass'y)	Millicuries Po (at date of firing)	Neutrons per sec. mc Po	Efficie %
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